Vision HT Series

User Manual

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this product contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.
"Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

ASRock Website: http://www.asrock.com

Safety instructions

Your system is designed and tested to meet the latest standards of safety for information technology equipment. However, to ensure your safety, it is important that you read the following safety instructions.

Setting up your system

- Read and follow all instructions in the documentation before you operate your system.
- Do not use this product near water or a heated source such as a radiator.
- Set up the system on a stable surface.
- Openings on the chassis are for ventilation. Do not block or cover these openings. Make sure you leave plenty of space around the system for ventilation. Never insert objects of any kind into the ventilation openings.
- Use this product in environments with ambient temperatures between 0° C and 40° C.
- If you use an extension cord, make sure that the total ampere rating of the devices plugged into the extension cord does not exceed its ampere rating.

Care during use

- Do not walk on the power cord or allow anything to rest on it.
- Do not spill water or any other liquids on your system.
- When the system is turned OFF, a small amount of electrical current still flows. Always unplug all power, modem, and network cables from the power outlets before cleaning the system.
- If you encounter the following technical problems with the product, unplug the power cord and contact a qualified service technician or your retailer.
    - The power cord or plug is damaged.
    - Liquid has been spilled into the system.
    - The system does not function properly even if you follow the operating instructions.
    - The system was dropped or the cabinet is damaged.
    - The system performance changes.

No disassembly

NOTE:
The warranty does not apply to products (including HDD, ODD, memory and warranty seal) that have been damaged as a result of attempting to disassemble/reassemble the system or modifying the hardware configuration.

Safety cautions and warnings

Optical Drive Safety Information

Optical drives sold with this system contains a CLASS 1 LASER PRODUCT.

CAUTION:
Invisible laser radiation when open. Do not stare into beam or view directly with optical instruments.

WARNING:
Making adjustments or performing procedures other than those specified in the user's manual may result in hazardous laser exposure. Do not attempt to disassemble the optical drive. For your safety, have the optical drive serviced only by an authorized service provider.

Product disposal notice

IMPORTANT:
This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

Nordic Lithium Cautions (for lithium-ion batteries)

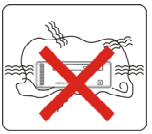
CAUTION!
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Installation Notices

Do not place this product underneath heavy loads or in an unstable position.

Do not use or expose this product around magnetic fields as magnetic interference may affect the performance of the product.

Do not expose this product to high levels of direct sunlight, high-humidity or wet conditions.



Do not block the air vents to this product or impede the airflow in any way.

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Chapter 1 Introduction

Thank you for purchasing ASRock ***Vision HT Series***, a reliable product produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

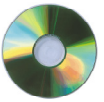
In this manual, chapter 1 and 2 contain introduction of the hardware and step-by-step guide to the hardware installation. Chapter 3 and 4 contain the configuration guide to BIOS setup and information of the Support CD.

Because the hardware specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest VGA cards and CPU support lists on ASRock website as well. ASRock website http://www.asrock.com

If you require technical support related to this product, please visit our website for specific information about the model you are using. www.asrock.com/support/index.asp

1.1 Package Contents

ASRock ***Vision HT Series***



ASRock Support CD

ASRock Quick Start Guide

One AC Power Cord

One AC/DC Adapter

One DVI to D-Sub Adapter

Remote Controller

SATA and Power Cables

1.2 Specifications

* For barebone systems, CPU, memory, HDDs and ODDs may not be included.

Processor	**Intel® Mobile Ivy Bridge Processor. Supports 3rd Generation Intel® Corei7/i5/i3 Dual-Core Mobile Ivy Bridge Processor Family**
Chipset	**Mobile Intel® HM77 chipset**
Memory	**Supports DDR3 1600/1333/1066MHz, 2xSO-DIMM slots, maximum up to 16GB**
Display	**Intel® HD Graphics 4000**
HDD*1	**Supports 2.5" SATA HDD (Up to two HDD's)**
mSATA SSD	**Supports mSATA SSD**
ODD	**BD Combo or DVD Super Multi**
Front I/O	**2x USB 3.0, 1x MIC, 1x Head phone, 4-in-1 Card reader (MMC/SD3.0/MS/MS PRO)**
Rear I/O	**1x HDMI, 1x DVI-I, 4x USB 2.0, 1x S/PDIF, 1x eSATA2*2, 2x USB3.0**
Audio	**7.1 Ch HD Audio with THX TruStudio™**
LAN	**Gigabit LAN**
WiFi	**2T2R 802.11 a/b/g/n wireless LAN (300Mbps, 5GHz/2.4GHz Dual-Band access)**
Bluetooth	**Bluetooth 4.0/3.0 HS class II**
Remote Controller	**Support MCE function**
Power	**90W/19V Adapter**
Dimension	**200mm(W)x70mm(H)x200m(L)**
Volume (liters)	**2.8L**

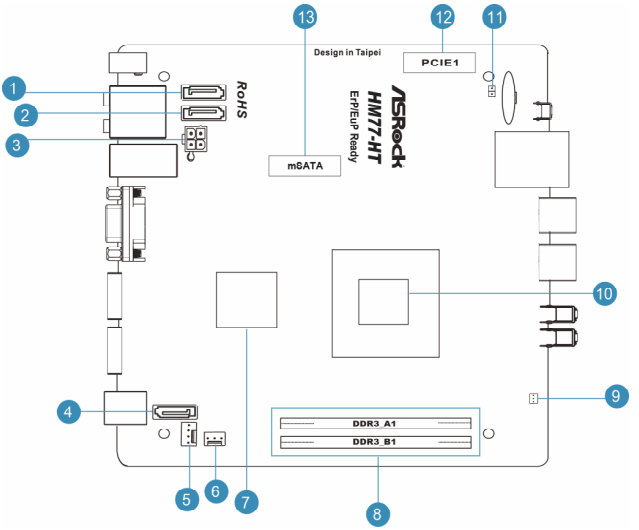
*1 To setup RAID under Windows® Vista™ / Vista™ 64-bit, the RAID driver in the support CD is required.

*2 Hot Plug is supported in AHCI mode only. IDE mode does not support Hot Plug.

WARNING

Please realize that there is a certain risk involved with overclocking, including adjusting the setting in the BIOS, or using the third-party overclocking tools. Overclocking may affect your system stability, or even cause damage to the components and devices of your system. It should be done at your own risk and expense. We are not responsible for possible damage caused by overclocking.

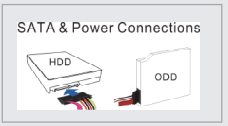
1.3 System Motherboard Components



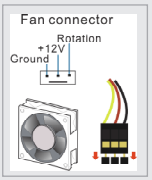
1. SATA 3.0 connector: For HDD SATA data cables
2. SATA 3.0 connector: For HDD SATA data cables
3. ATX5V output power connector for slim ODD & 2.5” HDD
4. SATA connector: For ODD SATA data cable
5. SATA power cable connector (+5V/+12V) for second HDD
6. Fan connector
7. HM77 PCH chipset
8. Memory socket
9. Infrared module header
10. CPU
11. Clear CMOS jumper
12. Mini-PCI Express expansion slot: For WiFi module
13. mSATA slot

NOTE.

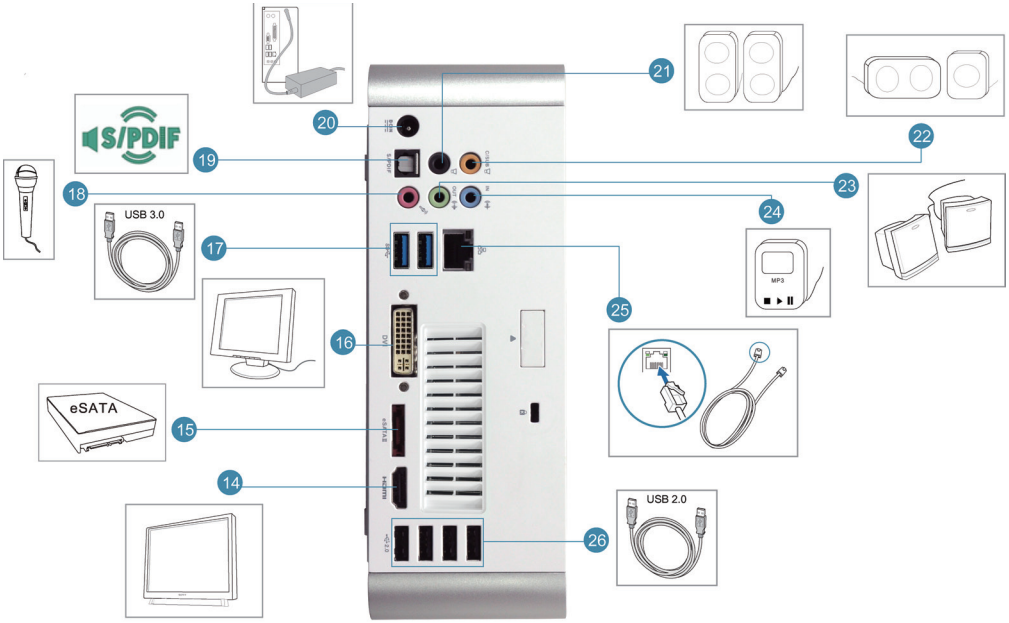
1. SATA and Power Connections



2. Fan Connection



1.4 Rear Panel



14. HDMI connector
15. eSATA2 connector
16. DVI-I port
17. USB3.0 ports: USB devices
18. Mic In (Pink): Microphone
19. Optical S/PDIF Out port
20. DC-In jack
21. Side port for side speakers
22. Center/LFE (Orange): Center / subwoofer speakers
23. Front L/R Out (Lime): Stereo speakers or headphones
24. Line In (Blue) for 2/4/6 channel; Rear (Blue) for 8 channel
25. LAN (RJ-45) port: Local Area Network
26. USB2.0 ports: USB devices

1.5 System Chassis

27. Headphone
28. Microphone
29. USB3.0 ports: USB devices
30. 4-in-1 Card reader (MMC/SD3.0/MS/MS Pro)
31. Power ON/OFF button with status indicator
32. Slot-in Optical Disc Drive

1.6 Remote Controller

NAVIGATION BUTTONS

START OK BACK Information

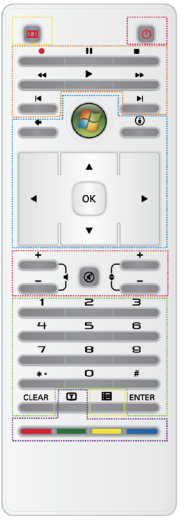
UP DOWN LEFT RIGHT

SHORTCUT BUTTONS

GUIDE ZOOM

AV AND POWER BUTTONS

POWER VOLUME UP/ DOWN CHANNEL UP/ DOWN MUTE



PLAYBACK BUTTONS

RECORD PAUSE STOP

REWIND PLAY FAST SKIP BACK SKIP FORWARD

NUMERIC KEYPAD

1 2 3 4 5 6 CLEAR

7 8 9 * 0 # ENTER

The numeric keypad consists of numbers from 0 through 9 and two other keys: ENTER and CLEAR.

TELETEXT BUTTONS

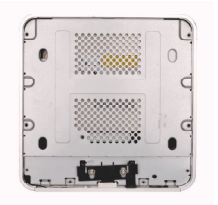
Media Center supports Teletext when it is available. The colored Fastext buttons on the remote control for Media Center PC work much like the Teletext buttons on a standard Teletext-enabled TV.

Some remote controller functions listed above are only available with the relative hardware equipments. If the hardware equipments you adopt are not compatible with the system, you are not allowed to use these functions. This product is designed to meet MCE standards.

Chapter 2 Opening the chassis

1. Press the button on the rear I/O to open the top side of the chassis.

2. After the chassis is opened, you will see the top shield inside the chassis.



3. Unscrew the screws on the corners of the top shield.

4. Carefully remove the top shield.

Chapter 3 Reinstalling the ODD/HDD

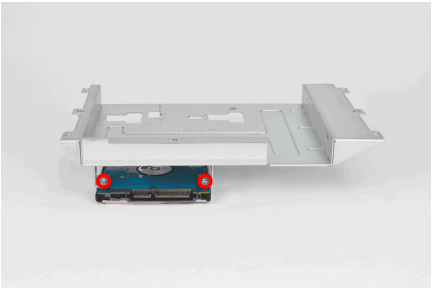
1. After you remove the top shield, you will see the ODD/HDD bracket.

2. Disconnect the ODD/HDD SATA power cable, and take out the ODD/HDD bracket.

3. Unscrew the screws from the side of the ODD / HDD rack, and change your required ODD / HDD.

Chapter 4 Installing the second HDD

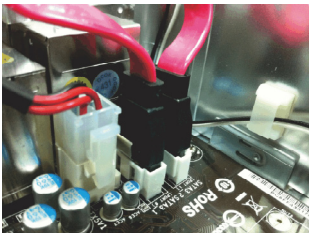
1. **Please follow steps 1 to 3 on page 15 to remove the ODD and the first HDD in advance. Then install the second HDD and fasten the screws to the rack.**



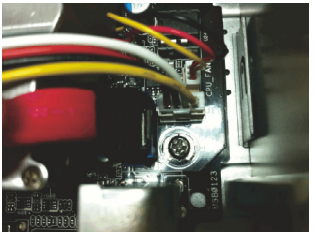
2. **Place the first HDD to the rack and fasten the screws from both sides.**

3. **Place the ODD to the rack and fasten the screws from both sides. Replace the rack into the chassis.**

4. Connect one end of the SATA and power cables to the HDDs and the other end to SATA3_1 or SATA3_2 connectors on the motherboard.



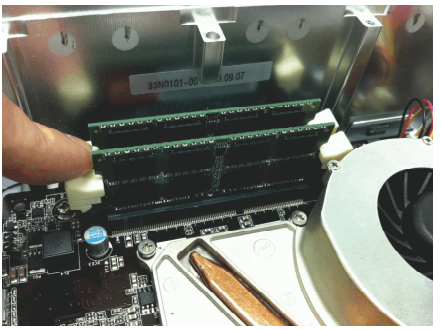
5. Connect one end of the SATA and power cables to the ODD and the other end to SATA2_1 and J1 connectors on the motherboard.



6. Replace the side cover and fasten the screws.

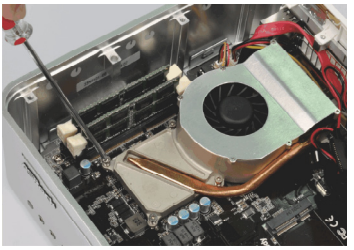
Chapter 5 Reinstalling the DIMMs

1. Unlock the DIMM slot by pressing the retaining clips outward to change the DIMM.

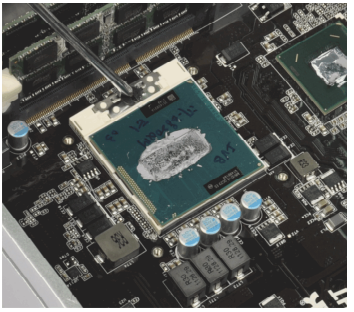


Chapter 6 Reinstalling the CPU

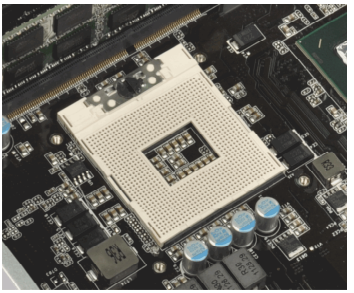
1. Unscrew the screws of the CPU fan.



2. Rotate the screw on the top of the CPU socket.



3. Now you can reinstall a new CPU to the system.

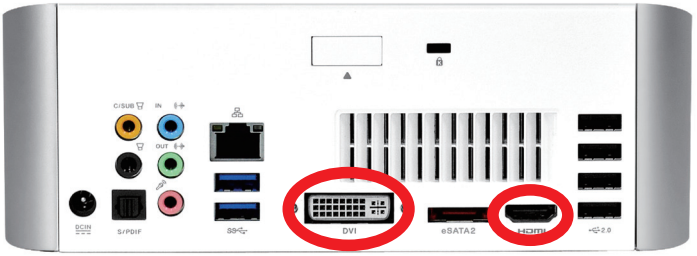


Chapter 7 Dual Monitor

ASRock Vision HT series HTPC supports dual monitor. With the internal VGA output which supports DVI-I and HDMI, you can easily enjoy the benefits of dual monitor. ASRock Vision HT series HTPC also provides independent display controllers for DVI-I and HDMI to support dual VGA output so that DVI-I and HDMI can drive the same or different display contents simultaneously.

To enable dual monitor, please follow the steps below:

1. Connect a DVI-I monitor cable to the DVI-I port on the I/O panel and connect a HDMI monitor cable to the HDMI port on the I/O panel.



2. If you have already installed the onboard VGA driver from our support CD to your system, you can freely enjoy dual monitor after your system reboots. If you haven't installed the onboard VGA driver yet, please install the onboard VGA driver from our support CD and restart your computer.

Chapter 8 Driver Installation

To install the drivers to your system, please insert the support CD to your optical drive first. Then, the drivers compatible to your system can be auto-detected and listed on the support CD driver page. Please follow the order from top to bottom to install those required drivers. Therefore, the drivers you install will work properly.

Chapter 9 Utility Menu

The utility menu shows the applications and other software that this product supports.

9.1 Instant Boot

9.1.1 Introduction

Instant Boot, a user-friendly tool that allows you to turn on your PC in just a few seconds, provides a much more efficient way to save energy, time, money, and improves the system's running speed *. It is applicable to Windows® 7 / 7 64-bit / XP / XP 64-bit.

Instant Boot leverages the S3 and S4 ACPI (Advanced Configuration and Power Interface) features which normally enable the Sleep/Standby and Hibernation modes in Windows® to shorten boot time. By calling S3 and S4 at specific times during the shutdown and startup process, Instant Boot allows you to enter your Windows® desktop in a few seconds.

There are two modes of Instant Boot available: Fast Mode and Regular Mode. In Fast Mode, it uses S3 and takes only a few seconds for the OS to resume to working state, which is 10 times faster than the traditional boot time (50 to 60 seconds). Even the Regular Mode is 3 times faster than the traditional boot time.

Instant Boot guarantees a clean Windows® boot to consume less power, time and money without any accumulated garbage data, and you can still keep your data safe even when the power is cut off. Also, Windows® update speed will become faster.

* This function is applicable ONLY to individuals that do not secure ID and Password to their systems.
* The boot time depends on hardware configuration.

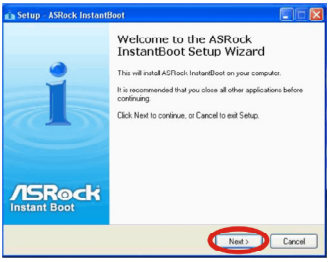
9.1.2 Installation

Please read the procedures below carefully before you install Instant Boot.

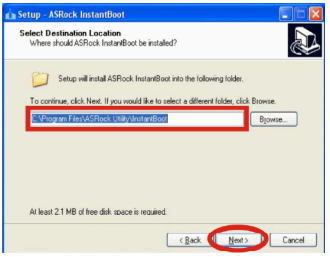
A. Install Instant Boot driver from ASRock's support CD, or you may click the following link to get the latest utility and BIOS:
http://www.asrock.com/feature/InstantBoot/download.asp

B. Execute the Instant Boot installation program under Windows®. Please follow the instructions on Instant Boot's setup page.

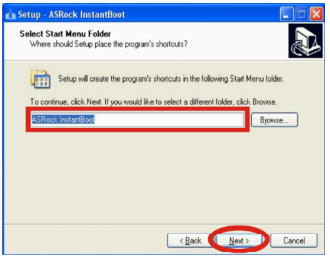
a. Click "Next" to continue.


Setup - ASRock InstantBoot
Welcome to the ASRock InstantBoot Setup Wizard
This will install ASRock InstantBoot on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
ASRock
Instant Boot
Next >
Cancel

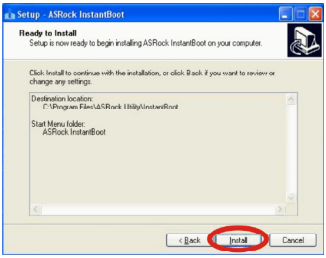
b. Select a location. You may choose a different folder if you want to. Then click "Next".


Setup - ASRock InstantBoot
Select Destination Location
Where should ASRock InstantBoot be installed?
Setup will install ASRock InstantBoot into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files\ASRock Utility\InstantBoot
Browse...
At least 2.1 MB of free disk space is required.
< Back
Next >
Cancel

c. Create a start menu folder. You may choose a different folder if you want to. Then click "Next".


Setup - ASRock InstantBoot
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
ASRock InstantBoot
Browse...
< Back
Next >
Cancel

d. Click “Install” to begin installing Instant Boot driver.


Setup - ASRock InstantBoot
Ready to Install
Setup is now ready to begin installing ASRock InstantBoot on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination location:
C:\Program Files\ASRock Utility\InstantBoot
Start Menu folder:
ASRock InstantBoot
< Back
Install
Cancel

e. Click “Finish” to complete and exit the setup.

Setup - ASRock InstantBoot
Completing the ASRock InstantBoot Setup Wizard
Setup has finished installing ASRock InstantBoot on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Launch ASRock InstantBoot
ASRock
Instant Boot
Finish

C. After the installation is completed, you will find an ASRock Instant Boot icon

on Windows® desktop.

D. Double click ASRock Instant Boot’s icon on the desktop, then Instant Boot’s main menu will pop up.

E. On Instant Boot’s main menu, you can choose “Fast Mode”, “Regular Mode” or “Disable Instant Boot”. After that, please click “Apply” to save your changes. Please notice that you need to keep the AC power on if you select “Fast Mode”.

F. When you want to shut down the computer, please select “Shut Down” from Windows® “Start menu”.

G. The system will restart automatically. After entering into the OS the system will shutdown again.

H. Next time when you turn on your system, you can enjoy Instant Boot.

9 .2 ASRock Extreme Tuning Utility (AXTU)

9.2.1 Introduction

ASRock Extreme Tuning Utility (AXTU) is an all-in-one tool to fine-tune different system functions in an user-friendly interface, which includes Hardware Monitor, Fan Control, Overclocking, OC DNA and XFastRAM. In Hardware Monitor, it shows the major readings of your system. In Fan Control, it shows the fan speed and temperature for you to adjust. In Overclocking, you are allowed to overclock CPU frequency for optimal system performance. In OC DNA, you can save your OC settings as a profile and share with your friends. Your friends then can load the OC profile to their own system to get the same OC settings. In XFast RAM, it fully utilizes the memory space that cannot be used under Windows® OS 32-bit CPU. It also shortens the loading time of previously visited websites, making web surfing faster than ever. And it also boosts the speed of Adobe Photoshop 5 times faster. Another advantage is that it reduces the frequency of accessing your SSDs or HDDs in order to extend their lifespan.

9.2.2 Installation

When you install the all-in-one driver into your system from the ASRock support CD, ASRock Extreme Tuning Utility (AXTU) will be auto-installed as well. After the installation, you will find the icon “ASRock eXtreme Tuner“ on your desktop.

Double-click the “ASRock eXtreme Tuner“ icon, the AXTU main menu will pop up.

9.2.3 Functions

Please be noted that there is a button “Auto run when windows start“ on the lower right corner. If you click this button, every time you turn on your system and enter Windows®, the system will automatically start AXTU.

There are five sections in the AXTU main menu: Hardware Monitor, Fan Control, Overclocking, OC DNA and XFast RAM.

Hardware Monitor

In the Hardware Monitor section, it shows the major readings of your system. The main readings include Clock, Fan & Temperature, and Voltage. In Clock, there are CPU speed and CPU ratio. In Fan & Temperature, there are CPU temperature and CPU fan speed. You may find out if there's any abnormal situations occuring to your system's temperature. In Voltage, there are many respective voltages.

Fan Control

In the Fan Control section, there are two major chapters: Temperature and CPU Fan. In Temperature, it shows the major readings of CPU and motherboard temperatures. In CPU Fan, it shows the fan target speed and temperature, and you are able to adjust the settings by clicking the "+/-" and confirm by "APPLY" afterwards.

Overclocking

In the Overclocking section, there are Clock and Voltage chapters for parameter settings adjustment in pursuit of optimal system performance. You are able to fine-tune the CPU ratio, CPU frequency, and respective voltages by clicking the "+/-" at the display panel. After confirming the settings, please click on the "APPLY" button.

Overclocking and over-voltage may affect your system's stability, or even cause damage to your hardware devices. It should be done at your own risk and expense. ASRock is not responsible for possible damages caused by overclocking and and overvoltage. If system hangs after overclocking, please remove the AC power cord and plug the AC power cord again before you power on your system.

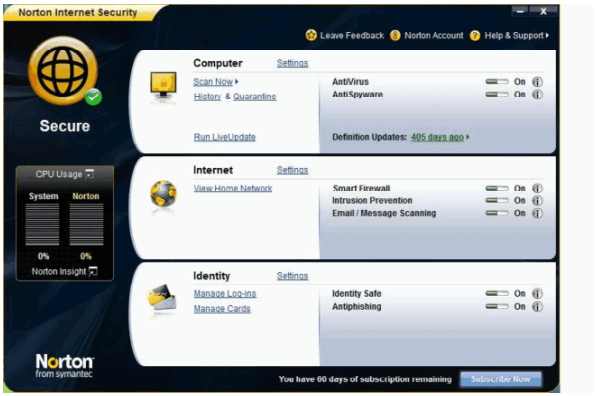
OC DNA

OC DNA provides a convenient way to record the OC settings and share with others. It helps you to save your overclocking records under the operating system and simplifies the complicated recording process of overclocking settings. With OC DNA, you can save your OC settings as a profile and share with your friends. Your friends then can load the OC profile to their own system to get the same OC settings as yours. Please be noticed that the OC profile can only be shared and worked on the same motherboards.

XFast RAM

XFast RAM fully utilizes the memory space that cannot be used under Windows® OS 32-bit CPU. It also shortens the loading time of previously visited websites, making web surfing faster than ever. And it also boosts the speed of Adobe Photoshop 5 times faster. Another advantage is that it reduces the frequency of accessing your SSDs or HDDs in order to extend their lifespan.

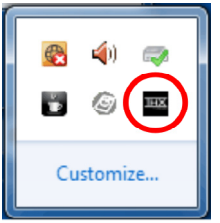
9.3 Symantec Norton AntiVirus Software free bundle (Trial version)



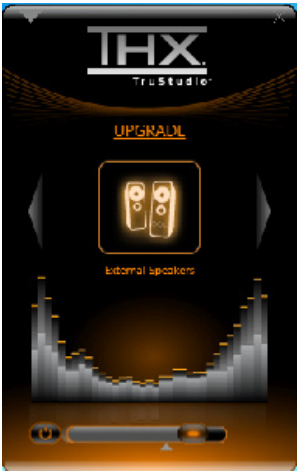
Protect your PC with Norton Internet Security, the fastest virus, spyware, Internet protection. Norton Internet Security can stop online identity theft, viruses, spyware, bots and more. Stop attacks before they get on your PC, deliver clear threat and performance explanations, identify unsafe web sites right in your search results, and use intelligence-driven Norton Insight Network for faster, fewer, shorter scans.

9.4 THX TruStudio Software free bundle

After you install THX audio driver from our support CD, there will be a THX icon shown on the Windows® task bar.



Click the THX icon on the Windows® task bar, you will see the THX TruStudio software application as below, which provides Surround/Crystalizer/Speaker/Smart volume/Dialog plus functions for you. Therefore, you can adjust your audio and enjoy THX TruStudio freely.

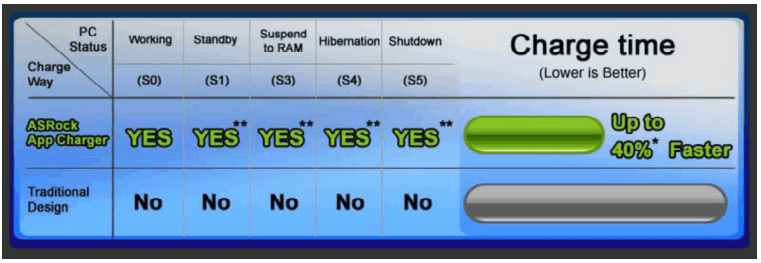


9.5 ASRock APP Charger

Setup - ASRock App Charger
Fast charge & Charge Anytime
ASRock App Charger
Welcome to the ASRock App Charger Setup Wizard
This will install ASRock App Charger v1.0.1 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

Fast Charge & Charge Anytime!

If you desire a faster, less restricted way of charging your Apple devices, such as iPhone/iPod/iPad Touch, ASRock has prepared a wonderful solution for you - ASRock App Charger. Simply by installing the App Charger driver makes your iPhone charge much quicker from your computer and up to 40% faster than before*. ASRock App Charger allows you to quickly charge many Apple devices simultaneously and even supports continuous charging when your PC enters into Standby mode (S1), Suspend to RAM(S3), hibernation mode (S4) or power off (S5)**. With App Charger driver installed, you can easily enjoy the marvelous charging experience.



9.6 CyberLink MediaEspresso 6.5 (Trial version)

CyberLink MediaEspresso
CyberLink
MediaEspresso
Feature:
- Supports new Intel Quick Sync Video hardware transcoding
- Ultra fast media converter with hardware acceleration support for AMD Accelerated Parallel Processing and NVIDIA CUDA technology
- Transfer converted files directly to portable devices with iSmart Detect and Direct Sync
- Enhance standard video quality instantly with TrueTheater HD
- Complete solution for media transcoding; includes videos, music and photos!
- Share media directly to Facebook and YouTube
You have 30 day(s) of free evaluation left.
Buy Now
Try Now

CyberLink MediaEspresso 6.5 trial now supports Intel® Quick Sync Video hardware transcoding and is optimized for second generation Core i7, i5, and i3 processors to accelerated conversion of all your favorite media files for your favorite portable players. Now you can easily display your favorite movies, songs and photos on iPhone, iPad, PSP, XBox, Youtube, Facebook etc. Compile, convert and enjoy images and songs as much as you want and enhance your videos to new levels with TrueTheater Technology. Try it today!

Limitations:
30-day trial limitation
Convert videos to the H.264 format 50 times

9.7 ASRock XFast USB Technology

Thank you for purchasing an ASRock product! This product supports a revolutionary technology, ASRock XFast USB Technology, which redefines the new standard in high performance computing. ASRock dedicated hundreds of hard working engineers to make immediate boosts possible – ASRock XFast USB Technology instantly accelerates the performance for the best possible gain profiles. Proving once again to be a pioneer in the computer industry, ASRock XFast USB Series products integrated with the latest ASRock XFast USB Technology delivers the world's fastest USB data transfer speed.

As we know, Windows® only assigns 10% of the system's resource for each USB device. However, ASRock XFast USB Technology creates a QOS (Quality of Service) to make USB devices more efficient. It changes the USB protocol from single task to multi task to deliver the best performance. With the unique ASRock XFast USB Technology (Similar as HDD NCQ technology), you will surprisingly find the increased performance of USB storage devices, even faster than your imagination!

ASRock is always keen on providing innovative products and bringing the unparalleled performance to the real world! The latest ASRock XFast USB Technology is successfully applied on ASRock motherboards. So, PC enthusiasts, what are you waiting for? Quickly come to download the latest driver now!

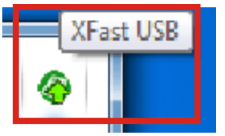
* ASRock XFast USB Technology USB boost performance may depend on your hardware configuration.

Please read the procedures below carefully before you install ASRock XFast USB Technology.

A. Install ASRock XFast USB driver from ASRock's support CD. When you install the all-in-one driver to your system from ASRock's support CD, ASRock XFast USB driver will be auto-installed as well. You may click the following link to get the latest utility: http://www.asrock.com/Feature/XFastUSB/index.asp

B. After ASRock XFast USB driver is installed to your system successfully. You will find the icon "XFast USB"

on your desktop.

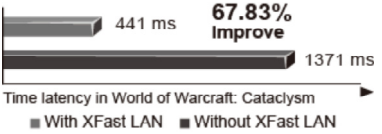
You can find it on the Windows® task bar as well. 

C. When you plug an USB device to your computer for the first time. You will see the message below, "Please unplug and plug the disk again!" Please unplug your USB device and plug it to the USB port again. This message will not appear next time you use this USB device.

D. Then, you will see ASRock XFast USB user interface as below. You can also double-click the “XFast USB” icon to show this interface. Please choose “Turbo” to enable ASRock XFast USB Technology. The detailed information of your USB device can also be found in this user interface.

9.8 ASRock XFast LAN

LAN Application Prioritization
You can configure your application priority ideally and/or add new programs.



Lower Latency in Game
After setting online game's priority higher, it can lower the latency in games.

Traffic Shaping
You can watch Youtube HD videos and download files simultaneously.

Real-Time Analysis of Your Data
With the status window, you can easily recognize which data streams you are currently transferring.

Chapter 10: UEFI SETUP UTILITY

10.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. The UEFI chip on the motherboard stores the UEFI SETUP UTILITY. You may run the UEFI SETUP UTILITY when you start up the computer. Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI SETUP UTILITY, otherwise, POST will continue with its test routines.

If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

10.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

Main	To set up the system time/date information
OC Tweaker	To set up overclocking features
Advanced	To set up the advanced UEFI features
H/W Monitor	To display current hardware status
Boot	To set up the default system device to locate and load the Operating System
Security	To set up the security features
Exit	To exit the current screen or the UEFI SETUP UTILITY

Use <← > key or < → > key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen. You can also use the mouse to click your required item.

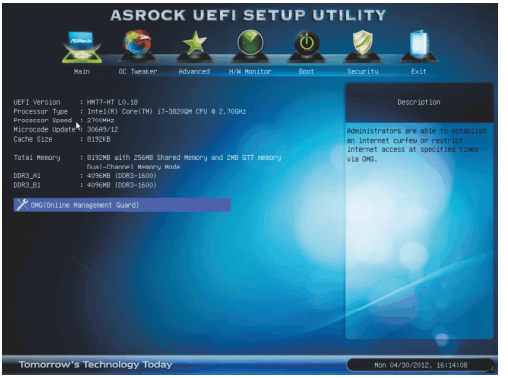
10.1.2 Navigation Keys

Please check the following table for the function description of each navigation key.

Navigation Key(s)	Function Description
← / →	Moves cursor left or right to select Screens
↑ / ↓	Moves cursor up or down to select items
+ / -	To change option for the selected items
<Tab>	Switch to next function
<Enter>	To bring up the selected screen
<PGUP>	Go to the previous page
<PGDN>	Go to the next page
<HOME>	Go to the top of the screen
<END>	Go to the bottom of the screen
<F1>	To display the General Help Screen
<F7>	Discard changes and exit the UEFI SETUP UTILITY
<F9>	Load optimal default values for all the settings
<F10>	Save changes and exit the UEFI SETUP UTILITY
<F12>	Print screen
<ESC>	Jump to the Exit Screen or exit the current screen

10.2 Main Screen

When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview.


ASROCK UEFI SETUP UTILITY
Main
OC Tweaker
Advanced
H/W Monitor
Boot
Security
Exit
UEFI Version : HM77-HT L0.18
Processor Type : Intel(R) Core(TM) i7-3820QM CPU @ 2.70GHz
Processor Speed : 2700MHz
Microcode Update : 306A9/12
Cache Size : 8192KB
Total Memory : 8192MB with 256MB Shared Memory and 2MB GTT memory
Dual-Channel Memory Mode
DDR3_A1 : 4096MB (DDR3-1600)
DDR3_B1 : 4096MB (DDR3-1600)
OMG(Online Management Guard)
Description
Administrators are able to establish an internet curfew or restrict internet access at specified times via OMG.
Tomorrow's Technology Today
Mon 04/30/2012, 16:14:08

OMG(Online Management Guard)

Administrators are able to establish an internet curfew or restrict internet access at specified times via OMG. You may schedule the starting and ending hours of internet access granted to other users. In order to prevent users from bypassing OMG, guest accounts without permission to modify the system time are required.

10.3 OC Tweaker Screen

In the OC Tweaker screen, you can set up overclocking features.

CPU Configuration

CPU Ratio

Use this item to change the ratio value of this motherboard.

Host Clock Override (BCLK)

Use this to adjust the host clock (BCLK) frequency. The default value is [100.0].

Spread Spectrum

This item should always be [Auto] for better system stability.

Intel SpeedStep Technology

Intel SpeedStep technology is Intel's new power saving technology. Processor can switch between multiple frequency and voltage points to enable power savings. The default value is [Enabled]. Configuration options: [Auto], [Enabled] and [Disabled]. If you install Windows® XP and select [Auto], you need to set the "Power Schemes" as "Portable/Laptop" to enable this function. If you install Windows® Vista™ / 7 and want to enable this function, please set this item to [Enabled]. This item will be hidden if the current CPU does not support Intel SpeedStep technology.

Please note that enabling this function may reduce CPU voltage and lead to system stability or compatibility issue with some power supplies. Please set this item to [Disable] if above issue occurs.

Intel Turbo Boost Technology

Use this item to enable or disable Intel Turbo Boost Technology. Turbo Boost allows processor cores to run faster than marked frequency in specific condition. The default value is [Enabled].

Additional Turbo Voltage

Use this item to add voltage when CPU is in Turbo mode.

Long Duration Power Limit

Use this item to configure long duration power limit in watts. The default value is [Auto].

Long Duration Maintained

Use this item to configure time window which the long duration power is maintained. The default value is [Auto].

Short Duration Power Limit

Use this item to configure short duration power limit in watts. The default value is [Auto].

Primary Plane Current Limit

Use this item to configure the maximum instantaneous current allowed for the primary plane. The default value is [Auto].

Secondary Plane Current Limit

Use this item to configure the maximum instantaneous current allowed for the secondary plane. The default value is [Auto].

GT OverClocking Support

Use this item to enable or disable GT OverClocking Support. The default value is [Disabled].

DRAM Timing Configuration

DRAM Frequency

If [Auto] is selected, the motherboard will detect the memory module(s) inserted and assigns appropriate frequency automatically.

CAS# Latency (tCL)

Use this item to change CAS# Latency (tCL) Auto/Manual setting. The default is [Auto].

RAS# to CAS# Delay (tRCD)

Use this item to change RAS# to CAS# Delay (tRCD) Auto/Manual setting. The default is [Auto].

Row Precharge Time (tRP)

Use this item to change Row Precharge Time (tRP) Auto/Manual setting. The default is [Auto].

RAS# Active Time (tRAS)

Use this item to change RAS# Active Time (tRAS) Auto/Manual setting. The default is [Auto].

Command Rate (CR)

Use this item to change Command Rate (CR) Auto/Manual setting. Min: 1N. Max: 2N. The default is [Auto].

Write Recovery Time (tWR)

Use this item to change Write Recovery Time (tWR) Auto/Manual setting. The default is [Auto].

Refresh Cyle Time (tRFC)

Use this item to change Refresh Cyle Time (tRFC) Auto/Manual setting. The default is [Auto].

RAS to RAS Delay (tRRD)

Use this item to change RAS to RAS Delay (tRRD) Auto/Manual setting. The default is [Auto].

Write to Read Delay (tWTR)

Use this item to change Write to Read Delay (tWTR) Auto/Manual setting. The default is [Auto].

Read to Precharge (tRTP)

Use this item to change Read to Precharge (tRTP) Auto/Manual setting. The default is [Auto].

Four Activate Window (tFAW)

Use this item to change Four Activate Window (tFAW) Auto/Manual setting. The default is [Auto].

CAS Write Latency (tCWL)

Use this item to change CAS# Write Latency (tCWL) Auto/Manual setting. The default is [Auto].

ODT WR (CHA)

Use this item to change ODT WR (CH A) setting. The default is [Auto].

ODT WR (CHB)

Use this item to change ODT WR (CH B) setting. The default is [Auto].

ODT NOM (CHA)

Use this item to change ODT NOM (CH A) setting. The default is [Auto].

ODT NOM (CHB)

Use this item to change ODT NOM (CH B) setting. The default is [Auto].

MRC Fast Boot

Use this item to enable or disable MRC Fast Boot. The default is [Enabled].

Voltage Configuration

DRAM Voltage

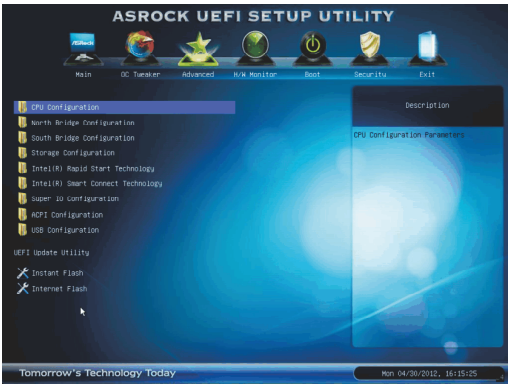
Use this to select DRAM Voltage. The default value is [Auto].

User Default

In this option, you are allowed to load and save three user defaults according to your own requirements.

10.4 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, North Bridge Configuration, South Bridge Configuration, Intel(R) Rapid Start Technology, Intel(R) Smart Connect Technology, Storage Configuration, Super IO Configuration, ACPI Configuration and USB Configuration.



Setting wrong values in this section may cause the system to malfunction.

Instant Flash

Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows you to update system UEFI without entering operating systems first like MS-DOS or Windows®. Just launch this tool and save the new UEFI file to your USB flash drive, floppy disk or hard drive, then you can update your UEFI only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute Instant Flash utility, the utility will show the UEFI files and their respective information. Select the proper UEFI file to update your UEFI, and reboot your system after UEFI update process completes.

Internet Flash

Internet Flash searches for available UEFI firmware updates from our servers. In other words, the system can auto-detect the latest UEFI from our servers and flash them without entering Windows OS. Please note that you must be running on a DHCP configured computer in order to enable this function.

10.4.1 CPU Configuration

ASROCK UEFI SETUP UTILITY
Main
OC Tweaker
Advanced
H/W Monitor
Boot
Security
Exit
Advanced\CPU Configuration
Intel(R) Core(TM) i7-3820QM CPU @ 2.70GHz
Max CPU Speed 3700 MHz
Min CPU Speed 1200 MHz
Processor Cores 4
Intel HT Technology Supported
Intel VT-x Technology Supported
Intel SMX Technology Supported
64-bit Supported
Intel Hyper Threading Technology Enabled
Active Processor Cores All
Enhanced Halt State(C1E) Enabled
CPU C3 State Support Enabled
CPU C6 State Support Enabled
Package C State Support Auto
CPU Thermal Throttling Enabled
No-Execute Memory Protection Enabled
Intel Virtualization Technology Enabled
Hardware Prefetcher Enabled
Description
Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology). When Disabled only one thread per enabled core is enabled.
Tomorrow's Technology Today
Mon 04/30/2012, 16:15:34

Intel Hyper Threading Technology

To enable this feature, it requires a computer system with an Intel processor that supports Hyper-Threading technology and an operating system that includes optimization for this technology, such as Microsoft® Windows® XP / Vista™ / 7. Set to [Enabled] if using Microsoft® Windows® XP, Vista™, 7, or Linux kernel version 2.4.18 or higher. This option will be hidden if the installed CPU does not support Hyper-Threading technology.

Active Processor Cores

Use this item to select the number of cores to enable in each processor package. Configuration options: [All] and [1]. The default value is [All].

Enhance Halt State (C1E)

All processors support the Halt State (C1). The C1 state is supported through the native processor instructions HLT and MWAIT and requires no hardware support from the chipset. In the C1 power state, the processor maintains the context of the system caches.

CPU C3 State Support

Use this to enable or disable CPU C3 (ACPI C2) report to OS.

CPU C6 State Support

Use this to enable or disable CPU C6 (ACPI C3) report to OS.

Package C State Support

Selected option will program into C State package limit register. The default value is [Auto].

CPU Thermal Throttling

You may select [Enabled] to enable CPU internal thermal control mechanism to keep the CPU from overheating.

No-Excute Memory Protection

No-Execution (NX) Memory Protection Technology is an enhancement to the IA-32 Intel Architecture. An IA-32 processor with “No Execute (NX) Memory Protection” can prevent data pages from being used by malicious software to execute code. This option will be hidden if the current CPU does not support No-Excute Memory Protection.

Intel Virtualization Technology

When this option is set to [Enabled], a VMM (Virtual Machine Architecture) can utilize the additional hardware capabilities provided by Vanderpool Technology. This option will be hidden if the installed CPU does not support Intel Virtualization Technology.

Hardware Prefetcher

Use this item to turn on/off the MLC streamer prefetcher.

Adjacent Cache Line Prefetch

Use this item to turn on/off prefetching of adjacent cache lines.

10.4.2 North Bridge Configuration

VT-d

Use this to enable or disable Intel® VT-d technology (Intel® Virtualization Technology for Directed I/O). The default value of this feature is [Disabled].

Share Memory

This allows you to set onboard VGA share memory feature.

DVMT Memory

Use this to configure DVMT Memory.

Render Standby

Use this to enable or disable Render Standby by Internal Graphics Device. The default value is [Enabled].

Deep Render Standby

This allows you to enable or disable Deep Render Standby. The default value is [Enabled].

10.4.3 South Bridge Configuration

Onboard HD Audio

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio feature. If you select [Auto], the onboard HD Audio will be disabled when PCI Sound Card is plugged.

Onboard LAN

This allows you to enable or disable the “Onboard LAN” feature.

Deep Sleep

This allows you to configure the Deep Sleep mode. The default value is [Enabled in S5].

Restore on AC/Power Loss

This allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers.

Good Night LED

Enable this option to turn off Power LED and Lan LED when the system is power on. The keyboard LED will also be turned off in S1, S3 and S4 state. The default value is [Auto].

10.4.4 Storage Configuration

SATA Controller(s)

Use this item to enable or disable the SATA Controller feature.

SATA Mode Selection

Use this to select SATA mode. Configuration options: [IDE Mode], [AHCI Mode] and [RAID]. The default value is [AHCI Mode].

AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.

SATA Aggressive Link Power Management

Use this to enable or disable SATA Aggressive Link Power Management. The default value is [Enabled].

Hard Disk S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled] and [Enabled].

10.4.5 Intel(R) Rapid Start Technology

Intel(R) Rapid Start Technology

Use this item to enable or disable Intel(R) Rapid Start Technology. Intel(R) Rapid Start Technology is a new zero power hibernation mode which allows users to resume in just 5-6 seconds. The default is [Enabled].

Entry After

Select a time to enable RTC wake timer at S3 entry. The default is [10 minutes].

Active Page Threshold Support

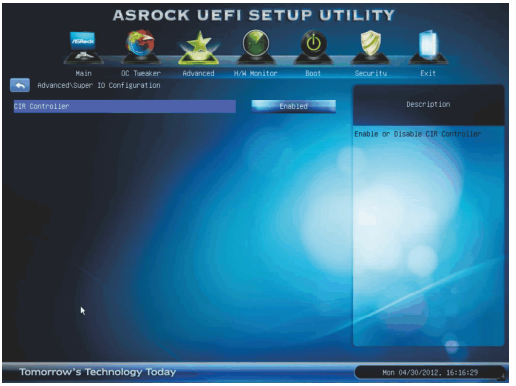
This allows you to enable or disable Active Page Threshold Support. The default is [Disabled].

10.4.6 Intel(R) Smart Connect Technology

Intel(R) Smart Connect Technology

Use this item to enable or disable Intel(R) Smart Connect Technology. Intel(R) Smart Connect Technology keeps your e-mail and social networks, such as Twitter, Facebook, etc. updated automatically while the computer is in sleep mode. The default is [Enabled].

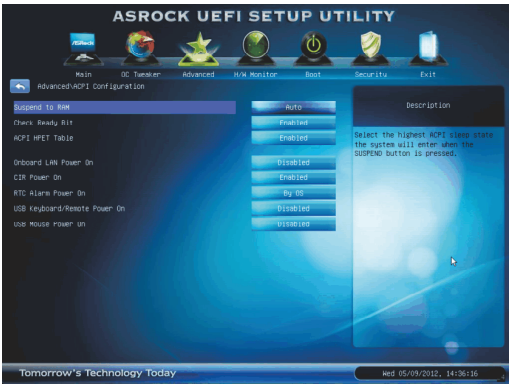
10.4.7 Super IO Configuration



CIR Controller

Use this item to enable or disable the CIR controller.

10.4.8 ACPI Configuration



Suspend to RAM

Use this item to select whether to auto-detect or disable the Suspend-to-RAM feature. Select [Auto] will enable this feature if the OS supports it.

Check Ready Bit

Use this item to enable or disable the feature Check Ready Bit.

ACPI HPET Table

Use this item to enable or disable ACPI HPET Table. The default value is [Enabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® Vista™ certification.

Onboard LAN Power On

Use this item to enable or disable onboard LAN to turn on the system from power-soft-off mode.

CIR Power On

Use this item to enable or disable CIR to power on the system.

RTC Alarm Power On

Use this item to enable or disable RTC (Real Time Clock) to power on the system.

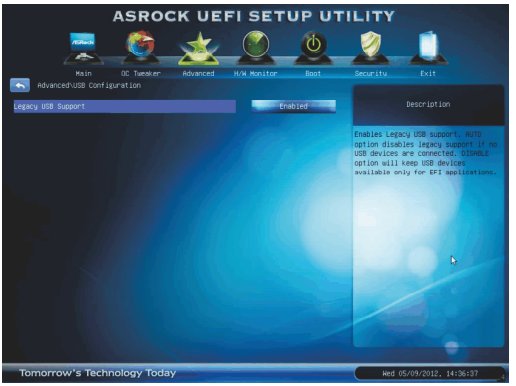
USB Keyboard/Remote Power On

Use this item to enable or disable USB keyboard/remote to power on the system.

USB Mouse Power On

Use this item to enable or disable USB mouse to power on the system.

10.4.9 USB Configuration



Legacy USB Support

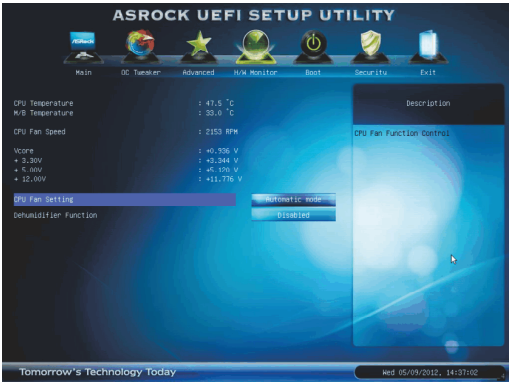
Use this option to select legacy support for USB devices. There are two configuration options: [Enabled] and [UEFI Setup Only]. The default value is [Enabled].

[Enabled] - Enables support for legacy USB.

[UEFI Setup Only] - USB devices are allowed to use only under UEFI setup and Windows / Linux OS.

10.5 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.



CPU Fan Setting

This allows you to set the CPU fan speed. Configuration options: [Full On], [SMART FAN Manual] and [Automatic mode]. The default is value [Automatic mode].

Dehumidifier Function

Users may prevent motherboard damages due to dampness by enabling “Dehumidifier Function”. When enabling Dehumidifier Function, the computer will power on automatically to dehumidify the system after entering S4/S5 state.

10.6 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.

Setup Prompt Timeout

This shows the number of seconds to wait for setup activation key. 65535(0XFFFF) means indefinite waiting.

Bootup Num-Lock

If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up.

PCI ROM Priority

Use this item to adjust PCI ROM Priority. The default value is [Legacy ROM].

Full Screen Logo

Use this item to enable or disable OEM Logo. The default value is [Enabled].

AddOn ROM Display

Use this option to adjust AddOn ROM Display. If you enable the option "Full Screen Logo" but you want to see the AddOn ROM information when the system boots, please select [Enabled]. Configuration options: [Enabled] and [Disabled]. The default value is [Enabled].

Boot From Onboard LAN

Use this item to enable or disable the Boot From Onboard LAN feature.

Boot Failure Guard

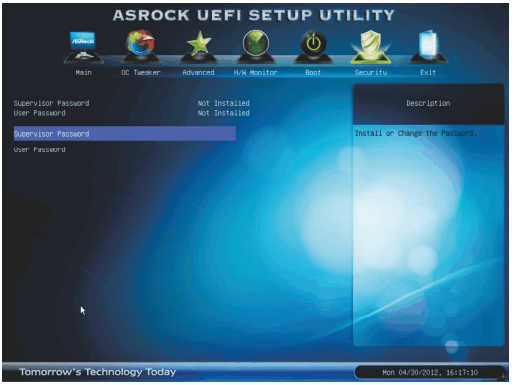
Enable or disable the feature of Boot Failure Guard.

Boot Failure Guard Count

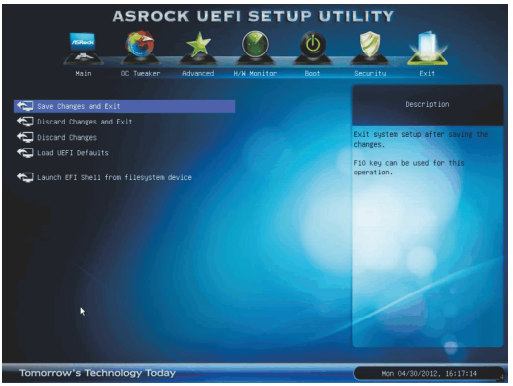
Enable or disable the feature of Boot Failure Guard Count.

10.7 Security Screen

In this section, you may set or change the supervisor/user password for the system. For the user password, you may also clear it.



10.8 Exit Screen



Save Changes and Exit

When you select this option, it will pop-out the following message, “Save configuration changes and exit setup?” Select [OK] to save the changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option, it will pop-out the following message, “Discard changes and exit setup?” Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, it will pop-out the following message, “Discard changes?” Select [OK] to discard all changes.

Load UEFI Defaults

Load UEFI default values for all the setup questions. F9 key can be used for this operation.

Chapter 11 Software Support

11.1 Install Operating System

This system supports various Microsoft® Windows® operating systems: 7 / 7 64-bit / XP / XP 64-bit. Refer to your OS documentation for more information.

11.2 Support CD Information

The Support CD contains necessary drivers and useful utilities that enhance the system features.

11.2.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if “AUTORUN” is enabled in your computer. If the Main Menu does not appear automatically, locate and double click on the file “ASRSETUP.EXE” in the Support CD to display the menu.

11.2.2 Drivers Menu

The Drivers Menu shows the available devices drivers if the system detects installed devices. Please install the necessary drivers to activate the devices.

11.2.3 Utilities Menu

The Utilities Menu shows the applications software that the system supports. Click on a specific item then follow the installation wizard to install it.

11.2.4 Contact Information

If you need to contact ASRock or want to know more about ASRock, welcome to visit ASRock’s website at http://www.asrock.com; or you may contact your dealer for further information.